

WHAT IS CLAIMED IS:

1. A ring selection method for node-to-node packet transmission in a dual ring network including a plurality of transmission nodes and reception nodes, said method comprising:

(a) transmitting a reception node address request message for packet transmission to all the nodes, and updating a routing table using information on a short path transferred from the reception node;

(b) using information on inter-node hop numbers included in the routing table to select a ring having the lowest hop number between the reception nodes;

(c) determining whether or not the selected ring is wrapped, and if the selected ring is not wrapped, comparing its usage rate and hop number with reference values based on a ring selection algorithm; and

(d) if the selected ring is suitable for packet transmission based on the reference values, selecting the ring for packet transmission.

2. The ring selection method as claimed in claim 1, wherein in (a), each of the transmission and reception nodes have a topology map including information on inter-node hop numbers, port information, MAC address, and wrapped-or-not information.

3. The ring selection method as claimed in claim 1, wherein the ring selection algorithm of (c) comprises:

calculating a transmission coefficient using the hop number and delay time based on a path between the reception nodes, and the inter-node usage rate, storing the calculated transmission coefficient in the routing table, and selecting a ring having a lower transmission coefficient stored in the routing table as the reference value.

4. The ring selection method as claimed in claim 1, wherein the comparison with the reference values in (c) comprises:

determining whether or not the selected ring and the ring selected by the ring selection algorithm are matched to the reference values.

5. The ring selection method as claimed in claim 3, wherein the transmission coefficient is determined with reference to the hop number between the transmission node and the reception node, the usage rate of each node, and the inter-node delay time.

6. The ring selection method as claimed in claim 3, wherein the usage rate and the transmission coefficient are calculated in a predetermined cycle, and updated in the routing table.

7. The ring selection method as claimed in claim 1, further comprising:

selecting the other ring when the selected ring is wrapped.

8. A method for selecting a ring for transmitting packets in a dual ring network comprising:

if neither ring is wrapped:

- a) calculating a transmission coefficient for each ring based on for each node in each ring, a hop number, a usage rate and a delay time;
- b) selecting the ring with the lowest calculated transmission coefficient for transmitting packets.

9. The method defined by Claim 8 wherein said hop number and said usage rate are determined with reference to values in a routing table.

10. The method defined by Claim 8, wherein each of the nodes has a topology map including information on inter-node hop numbers, port information, MAC address, and wrapped-or-not information.

11. The method defined by Claim 8, wherein said selecting comprises:

calculating a transmission coefficient for each of the nodes, storing the calculated transmission coefficient in a routing table, and selecting a ring having a lowest transmission coefficient stored in the routing table.

12. The method defined by Claim 8, wherein the usage rate and the transmission coefficient are calculated in a predetermined cycle, and updated

in the routing table.